United Nations A/63/743

General Assembly

Distr.: General
27 February 2009

Original: English

Sixty-third session
Agenda items 118 and 132

Programme budget for the biennium 2008-2009

Administrative and budgetary aspects of the financing of the United Nations peacekeeping operations

Information and communications technology, disaster recovery and business continuity for the United Nations: arrangements for the secondary data centre at Headquarters

Revised estimates relating to the programme budget for the biennium 2008-2009 under Section 28D and Section 36

Report of the Secretary-General

Summary

In its resolution 63/262 (sect. IV, para. 11), the General Assembly decided not to approve the proposal of the Secretary-General for a new secondary data centre as a result of the unsuitability of the proposed Long Island City site (see A/62/477) and requested the Secretary-General to report at the first part of its resumed sixty-third session on the risk mitigation measures to be taken during the relocation of the primary data centre to the North Lawn. In the same resolution, the Assembly requested the Secretary-General to present a new proposal for a secondary data centre, including a proposal on cost-sharing arrangements (sect. IV, para. 19).

The present report responds to the above decisions of the General Assembly and addresses the request of the Assembly to the Secretary-General to consolidate systems in central data centres in order to strengthen disaster recovery and business continuity (resolution 63/262, sect. IV, para. 2).

In the context of the present report, the Secretary-General proposes that the Secretariat lease a commercial data centre facility, starting 1 July 2009, and obtain the services of the International Computing Centre, which would install new information and communications technology (ICT) equipment in this ready-to-use

09-25191 (E) 090309

facility, and migrate all systems from the current secondary data centre in the DC2 Building to the leased facility by 1 November 2009, in time to provide a reliable backup during the relocation of the primary data centre. The Secretariat is to retain the data centre in the DC2 Building in working condition throughout the move in order to mitigate the risk of disruption to ICT services and the impact on the construction schedule of the capital master plan. The duration of the lease of the new facility is intended to run from 1 July 2009 to December 2011. This option of leasing a commercial data centre facility also allows for flexibility in adjusting to changes in scope and offers, under the present conditions, a viable solution for the secondary data centre for United Nations Headquarters in the short term.

The resources required for the new secondary data centre comprise: (a) a non-recurrent requirement related to the setting up of the new systems, (b) recurrent expenditures for managing the data centre operations, including equipment and related maintenance, and (c) recurrent expenditures for the lease of the facility, including power and cooling. The total costs, estimated in the amount of $25,737,500, are to be cost-shared between the programme budget and the peacekeeping support account.

The proposals for a permanent solution for the secondary data centre for United Nations Headquarters will be presented prior to the biennium 2012-2013, duly addressing requests by the General Assembly in its resolution 63/262 with regard to reducing the size of secondary data centres and re-engineering departmental applications with a view to the predominant use of enterprise data centres.

I. Introduction

1. In his report on information and communications technology security, disaster recovery and business continuity for the United Nations, the Secretary-General outlined the urgent requirement to increase the size of the United Nations Headquarters secondary data centre and mitigate the potential risks under the capital master plan transition (A/62/477, para. 97). The United Nations Federal Credit Union (UNFCU) Building in Long Island City was initially identified as an attractive option for a secondary data centre as it would allow for: the consolidation of data centres; access to a lower-rent area along with the freeing up of existing office spaces for United Nations business needs; cooperative arrangements with New York-based funds and programmes; and improvements to tier 1 disaster recovery and business continuity capability and scalability.

2. The General Assembly did not consider the above report during its sixty-second session. Given the pressing need to proceed with setting up the secondary data centre in the new location, the Secretary-General, in a note dated 5 June 2008 (A/C.5/62/29, annex), requested the Assembly to take note of the need for the Secretariat to enter into commitments not exceeding $13.2 million to meet the associated costs relating to establishment of the alternate Long Island City data centre, in order to continue to make progress on the capital master plan.

3. With the provisioning of temporary funding mentioned above, a detailed analysis of the UNFCU Building for the Long Island City data centre was undertaken with the assistance of the contractors for the capital master plan. The analysis revealed, however, that the cost would be much higher than originally estimated, due to the need for structural reinforcements, fire protection and major upgrades to the electrical infrastructure. On 25 September 2008, the Secretariat decided that it was not in the best interest of the Organization to pursue the option of locating a secondary data centre in the UNFCU Building in Long Island City.

4. The Advisory Committee on Administrative and Budgetary Questions, in its report of 16 October 2008 (A/63/487 and Corr.1 and 2), noted that the Long Island City site was no longer being pursued and stated that the General Assembly was no longer required to take any action on the resources requested. The Committee recommended that the Assembly request the Secretary-General to submit a new proposal for a secondary data centre for the United Nations Headquarters in New York, including detailed justification on the costs already incurred in connection with the Long Island City site (ibid., para. 83).

5. The General Assembly, in its resolution 63/262 of 24 December 2008, decided not to approve the proposal of the Secretary-General for a new secondary data centre at that stage and requested him to report at the first part of its resumed sixty-third session on the risk mitigation measures to be taken during the relocation of the primary data centre to the North Lawn. The Assembly also requested the Secretary-General to consolidate systems in central data centres in order to strengthen disaster recovery and business continuity, to minimize the size of local primary and secondary data centres and to ensure that the Secretariat would use enterprise data centres rather than local data centres as far as possible.

II. The problem

6. The current secondary data centre at United Nations Headquarters is located in the DC2 Building, which has limited capacity for both cooling and electrical power. Furthermore, there is no emergency power generator support at that location in the event of a power failure on the public utility grid. When the cooling problem was first identified during the biennium 2000-2001, additional cooling was installed. However, with the continuing increase in demand for information and communications technology (ICT) services, additional electrical and heat loads generated in the data centre presented a high risk of failure, particularly during the summer months. The electrical infrastructure of the DC2 Building is near its maximum capacity, limiting the available alternatives for dealing with the problem. In the summer of 2008, the Information Technology Services Division was forced to shut down several backup systems in the DC2 data centre in order to mitigate problems associated with overheating. The stand-by servers for many systems such as the Integrated Management Information System (IMIS), the official document system (ODS) and the Operations Processing Integrated Control System (OPICS) (Treasury system) are inactive for that reason. The data for these systems is, however, being backed up to the data centre in the DC2 Building for disaster recovery purposes.

7. According to the current schedule for the capital master plan, the new North Lawn data centre site will be ready for occupation in November 2009. Due to the complexity and volume of applications currently being hosted in the primary data centre, it has been determined that relocating the data centre from the Secretariat Building to the North Lawn in one phase would be a high-risk option, given the risk it presents for disruption in the day-to-day operations of the Secretariat. Furthermore, this approach would also require a large financial outlay to cover the necessary ICT equipment and services.

8. To mitigate the risk and expenditure involved, the relocation plan envisages a phased approach, spanning four months, from November 2009 to February 2010. In the first phase, expected to be about six weeks, the North Lawn data centre will be equipped with core infrastructure equipment (network and ICT security) and with approximately 25 per cent of the server and storage capacity, to be funded from the $7,145,500 approved by the General Assembly in its resolution 63/262 (see sect. IV, paras. 21 and 22). These resources comprise of $5,716,400 to be funded from the regular budget to be met from resources appropriated under the programme budget for the biennium 2008-2009 and $1,429,100 from the support account. Within this capacity, approximately 25 per cent of the systems hosted in the current primary data centre will be relocated to the North Lawn data centre. When this relocation is successfully completed, the primary data centre equipment released through this initial relocation will be dismantled, moved and installed in the North Lawn data centre to facilitate the next phase of relocation of systems. This process will continue iteratively until all the systems have been relocated from the existing primary data centre to the North Lawn data centre.

9. During the relocation of systems from the primary data centre to the North Lawn data centre, as described in paragraph 8 above, in order to ensure uninterrupted service the secondary data centre will acquire the role of a primary data centre for the systems that are being relocated. However, because of its inadequate infrastructure facilities, especially the lack of emergency backup power,

the data centre in the DC2 Building poses a high risk to the continued provision of critical ICT services during the relocation of the primary data centre. If major systems, such as IMIS, e-mail, ODS or official United Nations websites, are disrupted, the Secretariat's operations could be seriously affected.

10. The current schedule for the capital master plan envisages that demolition work will be undertaken in the Secretariat Building from November 2009 onwards. While the contractors for the plan will take great care to avoid any damage or disruption to the infrastructure supporting the primary data centre in the Secretariat Building, the risks of major disruption to ICT services cannot be ruled out. Thus, a reliable secondary data centre is critical in order to mitigate the effects of any possible disruptions.

11. It should also be noted that if the existing primary data centre in the Secretariat Building is not vacated, as planned, by the end of March 2010, the implementation of the capital master plan project will be delayed resulting in a cost increase currently estimated at about $14,000,000 per month due to several costs associated with swing space leases and the resumption of construction activity after an interruption.

12. For the reasons outlined in the paragraphs above, it is necessary to ensure that a reliable and adequately equipped secondary data centre is fully operational by the end of October 2009. As explained in paragraph 6 above, the current secondary data centre in the DC2 Building cannot meet this requirement, nor can it be upgraded to meet this requirement.

III. Proposed solutions

13. If the secondary data centre is to provide a reliable backup to the primary data centre it must be located away from the primary data centre, preferably in an area that uses power and communications links from a different utility grid. It cannot, however, be too far away since the costs of data transmission tend to increase with distance. In addition, the secondary data centre has to be within a 60-mile radius of the primary data centre at Headquarters. This physical distance limitation is imposed by the technology that is used for the replication of data from the primary data centre to the secondary data centre. The distance provides a safe margin within which it is possible to ensure that the data replicated to the secondary location can be recovered in full if the primary location is affected. Such technology is currently used for IMIS, security video and other mission-critical data.

14. In September 2008, when it was determined that the UNFCU Building in Long Island City was not suitable for the secondary data centre, the Secretariat undertook a search for alternate sites in which to build a data centre. Three sites, located in Wappingers Falls, New York, Brooklyn, New York, and Jersey City, New Jersey, were initially identified as potential sites. The Brooklyn and Jersey City sites were eventually discounted owing to concerns surrounding security, the costs involved and the amount of construction that would be required. The Wappingers Falls site appeared to be the most promising from the point of view of cost and availability. A preliminary feasibility study, undertaken in December 2008, confirmed that this site could represent a good long-term solution in terms of distance from the Secretariat, the space available and the quality of the utilities (power, cooling and telecommunications).

15. A more detailed follow-up study, also initiated in December 2008, could not be completed until in January 2009. On the basis of that study, it was estimated that the costs associated with the "fit-out" of the Wappingers Falls data centre facility, not including the cost of the necessary ICT equipment, would be approximately $24.4 million. More importantly, it became clear that the Wappingers Falls site would not be ready in time for the Secretariat's purpose, due to the lead-time for modifications to the facilities and the timing of consideration and approval of the current proposal by the General Assembly.

16. Independent of this development regarding the inability to build a data centre facility in time for the relocation of the primary data centre, the Secretariat also had to re-evaluate its strategy relating to the secondary data centre for Headquarters, in the light of the adoption of resolution 63/262 by the General Assembly. In section IV of that resolution, the Assembly established several important principles for managing disaster recovery and business continuity, notably the Assembly:

(a) Requested the consolidation of systems in central data centres and the minimization of the size of local primary and secondary data centres;

(b) Encouraged a unified approach to disaster recovery and business continuity, utilizing all available infrastructure to achieve economies of scale and cost efficiencies;

(c) Requested that the Secretary-General ensure the use of enterprise data centres rather than local data centres as far as possible;

(d) Encouraged application and data re-engineering where it supported the long-term goal of managing data recovery and business continuity in system-wide enterprise data centres and where, from a long-term perspective, it is more cost-effective than hosting them at a local data centre.

17. Cumulatively, the above principles established by the General Assembly in December 2008 pointed to a case for a smaller secondary data centre in Headquarters than originally planned, with the flexibility to reduce its size, over time, by re-engineering and migrating applications to enterprise data centres.

18. Since constructing a data centre was ruled out owing to the time constraint, and the case for a smaller data centre, with flexibility to shrink further, was strengthened by General Assembly resolution 63/262, the Secretariat undertook a market survey for commercial, "infrastructure-ready" data centre facilities, where it could immediately install and operate its own ICT equipment. These facilities already have raised floor, power and cooling. They can be made operational for the Secretariat's purposes by installing ICT equipment and telecommunication links between the facility and the Headquarters campus.

19. These data centre facilities are also available for a short period of time and afford the flexibility to scale their capacity up or down depending on the Secretariat's requirements. In this regard, the availability and the scalability of these commercial data centre facilities make them potentially feasible solutions for both the short-term and the long-term requirements.

Timeline for implementation

20. As mentioned earlier, the primary data centre has to be relocated from the Secretariat Building to the new North Lawn data centre in phases commencing from

1 November 2009. This includes about six weeks for setting up the initial ICT infrastructure in the North Lawn data centre. The relocation of systems will, therefore, effectively take place from mid-December 2009 to the end of February 2010.

21. The new secondary data centre needs, therefore, to be fully operational, including all systems that have to be relocated from the data centre in the DC2 Building, by the end of October 2009. Setting up the initial ICT infrastructure for this data centre is also estimated to take about six weeks. The relocation of systems from the DC2 data centre to the new secondary data centre is estimated to take about 10 weeks. The new secondary data centre facility must, therefore, be available for occupation by 1 July 2009.

22. For the above reasons, a commercial data centre facility must be identified and leased by 1 July 2009. This presents a very challenging timetable for all the associated procurement and negotiation processes to be completed, significantly increasing the risk that the deadline for the commissioning of the new secondary data centre cannot be met.

23. The timely procurement of ICT equipment is not anticipated to present difficulties due to the availability of systems contracts and reasonable lead times for delivery of equipment. However, the establishment of the necessary commercial telecommunication links to the new secondary data centre will also require some lead time and may pose a challenge if the site is not identified quickly.

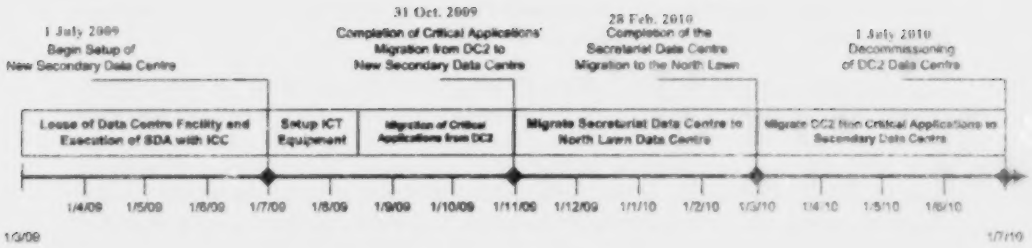
24. Noting the tight time schedule and the associated costs attached to any delays, the Secretariat plans to enter into a service delivery agreement with the International Computing Centre, under financial rule 105.16(a)(iii) on cooperation with other organizations of the United Nations system.

25. A number of risk mitigation strategies will be developed to ensure the organization achieves a best-value-for-money outcome from the International Computing Centre. First, the service delivery agreement process will be managed by the Procurement Division. Secondly, the Office of Information and Communications Technology will develop a robust statement of work, with clear deliverables, which the Procurement Division will use to benchmark estimates provided by the International Computing Centre.

26. Due to the significant costs of any delay in the relocation of the primary data centre, to the overall cost by the capital master plan, the Secretariat proposes to maintain the current secondary data centre in the DC2 Building in working condition throughout the entire relocation. This plan supersedes the earlier plan to vacate the data centre in the DC2 Building as early as possible and it will provide an additional level of risk mitigation in the event there are any delays in the schedule of the capital master plan or in setting up the new secondary data centre. It will also provide some flexibility in dealing with certain systems that prove difficult to relocate to the new secondary data centre. The Secretariat, therefore, plans to decommission the data centre in the DC2 Building only by the end of June 2010, allowing some time for relocating non-critical systems that could not be relocated within the time frame outlined in paragraph 20 above.

27. The above schedules for the various phases associated with the acquisition and commissioning of a new secondary data centre are graphically presented in figure I.

Figure I



IV. Recommended solution and related resource requirements

28. The Secretariat proposes to lease a commercial "infrastructure-ready" data centre facility, with less capacity than originally envisaged, for the period from 1 July 2009 to 31 December 2011, with an option to extend the lease, if necessary. Such a lease, including space, power, cooling and racks, is estimated to cost $4,288,000 per year, in addition to an initial set-up charge of $350,000. For the period from 1 July 2009 to 31 December 2011, the lease would cost $11,070,000. As indicated earlier, such a lease is expected to provide the flexibility to increase or decrease capacity, with reasonable notice.

29. On the basis of the quantity and type of equipment to be installed and commissioned, it is estimated that a one-time cost for planning and installing all the equipment, including the operating systems software, would be $994,700. Once the operating systems software has been installed, all the applications in the data centre in the DC2 Building, both enterprise and departmental, have to be installed, configured, tested and tuned for performance in the new data centre. The effort involved in this is far more difficult to estimate than the commissioning of the new equipment, as it is dependent on the complexity of the applications. On the basis of an inventory of these applications and the classification of complexity into low, medium and high, the one-time cost for migrating the applications is estimated to be $1,000,000.

30. Currently, the Secretariat utilizes the International Computing Centre for many of the data centre operations in the primary and secondary data centres at United Nations Headquarters in New York and in the United Nations Logistics Base at Brindisi, Italy. Consistent with General Assembly resolution 63/262 (sect. I, para. 6), in which the Assembly requested the Secretary-General to continue to utilize the services of the Centre in supporting the ICT activities of the United Nations, the Secretariat proposes to enter into a service delivery agreement with the Centre to manage the new secondary data centre from 1 July 2009.

31. Under the above-mentioned service delivering agreement, the International Computing Centre will provide the necessary equipment and services for running the new secondary data centre for an estimated annual amount of $5,445,800. This amount will be offset by a reduction of $627,800 annually in the current service delivery agreement for the data centre in the DC2 Building from July 2010 when the data centre is decommissioned. The estimated cost of the new agreement would be $12,672,800 for the period from 1 July 2009 to 31 December 2011.

32. The total estimated cost of the new secondary data centre for the period from July 2009 to December 2011 would be $25,737,500, broken down as shown in table 1.

Table 1

(Thousands of United States dollars)

Object of expenditure	*2009*	*2010*	*2011*	*Total*
Non-recurrent expenditures				
Contractual services				
Commissioning equipment	994.7			**994.7**
Migrating applications	1 000.0			**1 000.0**
Recurrent expenditures				
General operating expenses				
Lease of data centre facility	2 494.0	4 288.0	4 288.0	**11 070.0**
Contractual services				
Data centre equipment and services	2 722.9	5 131.9	4 818.0	**12 672.8**
Total	**7 211.6**	**9 419.9**	**9 106.0**	**25 737.5**

33. A proposal for a permanent solution for the secondary data centre for United Nations Headquarters will be submitted during the biennium 2012-2013, duly addressing a number of requests in General Assembly resolution 63/262 related to reducing the size of secondary data centres, re-engineering departmental applications with a view to using enterprise data centres and improving business continuity. The cost-benefit of retaining the leased commercial data centre as a permanent solution for United Nations Headquarters will also be addressed in that context.

V. Summary of resource requirements

34. About 20 per cent of the capacity in the existing primary data centre in the Secretariat building is utilized by peacekeeping operations. Accordingly, 20 per cent of the costs are met from the peacekeeping support account, while the remaining 80 per cent are financed from the regular budget.

35. The same cost-sharing arrangement is proposed for the new secondary data centre on the basis of the proportion of capacity used for peacekeeping and non-peacekeeping operations. The cost-sharing ratio will be reviewed again for the 2012-2013 biennium if the proportion of capacity used by peacekeeping operations changes due to the migration of systems to enterprise data centres.

36. Table 2 summarizes the resource requirements for the secondary data centre for the period from July 2009 to December 2011, based on the recommendation in paragraphs 34 and 35 above.

Table 2
(Thousands of United States dollars)

	Regular budget		*Peacekeeping budget*			
Object of expenditure	*2008-2009*	*2010-2011*	*1 July 2009-30 June 2010*	*1 July 2010-30 June 2011*	*1 July 2011-31 Dec. 2011*	*Total*
General operating expenses						
Rental of facilities	1 995.2	6 860.8	927.6	857.6	428.8	11 070.0
Contractual services						
Commissioning equipment	795.8	0	198.9	0	0	994.7
Migrating applications	800.0	0	200.0	0	0	1 000.0
Data centre equipment and services	2 178.3	7 959.9	1 057.8	995.0	481.8	12 672.8
Total	**5 769.3**	**14 820.7**	**2 384.3**	**1 852.6**	**910.6**	25 737.5

37. The recurring costs for the lease of the facilities, including space, power and cooling, is estimated to be $11,070,000 for the period from July 2009 to December 2011. A sum of $1,995,000 will be required under contractual services to cover the non-recurring costs for setting up ICT equipment and systems in the new secondary data centre. The recurring cost for the provision of ICT equipment and services, including maintenance, is estimated at $12,673,000 for the period from July 2009 to December 2011.

VI. Actions to be taken by the General Assembly

38. **The General Assembly is requested:**

(a) **To approve the total estimated cost of the project, estimated at $25,737,500;**

(b) **To approve the proposed cost-sharing arrangement for the new secondary data centre;**

(c) **To approve the additional resource requirements for the biennium 2008-2009 of $3,774,100 under Section 36, Office of Information and Communications Technology, and $1,995,200 under Section 28D, Office of Central Support Services;**

(d) **To note that the future remaining requirements in the estimated amount of $14,820,700 would be considered in the context of the proposed programme budget for the 2010-2011 biennium;**

(e) **To note the Secretariat strategy of entering into a service delivery agreement with the International Computing Centre, under financial rule 105.16(a)(iii) and securing a leasing agreement to accommodate an "infrastructure-ready" data centre facility;**

(f) **To approve the additional resource requirements of $2,384,300 from the peacekeeping support account for the period from 1 July 2009 to 30 June 2010;**

(g) **To note that the future remaining requirements in an estimated amount of $1,852,600 will be included in the peacekeeping support account requirements for the period from 1 July 2010 to 30 June 2011 and that an estimated amount of $910,600 will be included in the requirements for the period from 1 July 2011 to 30 June 2012.**